Data-Loading

December 21, 2021

1 Load Data

In this File we load the raw data and convert it into JSON format.

Whilst the data was said to be in JSON format, when running it through a JSON linter, we noticed that it was not proper JSON due to the use of single quotes instead of double quotes.

To remedy this, we explored options such as replacing the single quotes with double quotes. However this led to issues where the name of a game included an apostrophe, e.g. Assassin's Creed.

1.1 User-items data

The dataset was downloaded from https://cseweb.ucsd.edu/~jmcauley/datasets.html#steam_data file Version 1: User and Item Data.

```
[]: import pandas as pd
    import numpy as np
    import ast
    import json
[]: with open("C:
     →\\Users\\pmogh\\Documents\\Python_Workspace\\Final_Project_Dataset\\ProjectData\\Part_1\\us
     lines = player_item_file.readlines()[0:10000]
[]: lines[0]
[]: '{\'user_id\': \'76561197970982479\', \'items_count\': 277, \'steam_id\':
    \'76561197970982479\', \'user_url\':
    \'http://steamcommunity.com/profiles/76561197970982479\', \'items\':
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303: They Stole Max\'s Brain!", \'playtime_forever\': 0, \'playtime_2weeks\':
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40,000: Dawn of War® II\', \'playtime_forever\': 2085, \'playtime_2weeks\': 0},
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Edition\', \'playtime_forever\': 0, \'playtime_2weeks\': 0}, {\'item_id\':
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Rising \', \'playtime_forever\': 69, \'playtime_2weeks\': 0}, {\'item_id\':
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\'item_name\': \'MX vs. ATV Reflex\', \'playtime_forever\': 0,
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40,000: Dawn of War® II - Retribution \', \'playtime_forever\': 678,
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```

```
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{'item_id': '496300',
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{'item_id': '461640',
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{'item_id': '379720',
 'item name': 'DOOM',
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{'item_id': '273350',
 'item_name': 'Evolve Stage 2',
 'playtime_forever': 58,
 'playtime_2weeks': 0}]}
```

```
[]: # Merger Line with comma & Build List
     merge_data = '[' + ','.join(lines) + ']'
[]: data_linter = ast.literal_eval(merge_data)
[]: # Export to JSON
     with open('data.json', 'w') as j_file:
         json.dump(data_linter, j_file)
    We now have a . json file that we can easily view as a Pandas DataFrame.
[]: data_frame = pd.DataFrame(data_linter)
     data_frame.head()
[]:
                  user_id items_count
                                                  steam_id \
        76561197970982479
                                         76561197970982479
                                    277
     0
     1
                                    888
                                         76561198035864385
                  js41637
     2
                evcentric
                                    137
                                         76561198007712555
     3
               Riot-Punch
                                    328 76561197963445855
                    doctr
                                    541 76561198002099482
                                                  user_url
       http://steamcommunity.com/profiles/76561197970...
     0
                     http://steamcommunity.com/id/js41637
     1
     2
                   http://steamcommunity.com/id/evcentric
                  http://steamcommunity.com/id/Riot-Punch
     3
                       http://steamcommunity.com/id/doctr
     4
                                                     items
      [{'item_id': '10', 'item_name': 'Counter-Strik...
     1 [{'item_id': '10', 'item_name': 'Counter-Strik...
     2 [{'item_id': '1200', 'item_name': 'Red Orchest...
     3 [{'item_id': '10', 'item_name': 'Counter-Strik...
       [{'item_id': '300', 'item_name': 'Day of Defea...
```

1.2 Items detail data

This dataset was downloaded from https://cseweb.ucsd.edu/~jmcauley/datasets.html#steam_data file Version 2: item metadata

```
[]: # View first line
     data_game[0]
[]: "{u'publisher': u'Kotoshiro', u'genres': [u'Action', u'Casual', u'Indie',
     u'Simulation', u'Strategy'], u'app_name': u'Lost Summoner Kitty', u'title':
     u'Lost Summoner Kitty', u'url':
    u'http://store.steampowered.com/app/761140/Lost_Summoner_Kitty/',
    u'release_date': u'2018-01-04', u'tags': [u'Strategy', u'Action', u'Indie',
    u'Casual', u'Simulation'], u'discount_price': 4.49, u'reviews_url':
    u'http://steamcommunity.com/app/761140/reviews/?browsefilter=mostrecent&p=1',
     u'specs': [u'Single-player'], u'price': 4.99, u'early_access': False, u'id':
     u'761140', u'developer': u'Kotoshiro'}\n"
[]: # Get number of lines
     len(data_game)
[]: 32135
    There are 32135 lines, each representing a different game.
[]: # evaluate the first string
     data_linter = ast.literal_eval(data_game[0])
[]: # View the first line
     data_linter
[]: {'publisher': 'Kotoshiro',
      'genres': ['Action', 'Casual', 'Indie', 'Simulation', 'Strategy'],
      'app_name': 'Lost Summoner Kitty',
      'title': 'Lost Summoner Kitty',
      'url': 'http://store.steampowered.com/app/761140/Lost_Summoner_Kitty/',
      'release_date': '2018-01-04',
      'tags': ['Strategy', 'Action', 'Indie', 'Casual', 'Simulation'],
      'discount_price': 4.49,
      'reviews_url':
     'http://steamcommunity.com/app/761140/reviews/?browsefilter=mostrecent&p=1',
      'specs': ['Single-player'],
      'price': 4.99,
      'early_access': False,
      'id': '761140',
      'developer': 'Kotoshiro'}
[]: merge_data = '[' + ','.join(data_game) + ']'
[]: data_linter = ast.literal_eval(merge_data)
[]: with open('gamesdata.json', 'w') as game_data:
         json.dump(data_linter, game_data)
```

We now have a .json file that we can easily view as a Pandas DataFrame.

```
[]: data_frame = pd.DataFrame(data_linter)
     data_frame.head()
[]:
               publisher
                                                                        genres
                               [Action, Casual, Indie, Simulation, Strategy]
               Kotoshiro
     0
     1
        Making Fun, Inc.
                                         [Free to Play, Indie, RPG, Strategy]
                           [Casual, Free to Play, Indie, Simulation, Sports]
            Poolians.com
     2
                                                [Action, Adventure, Casual]
     3
     4
                      NaN
                                                                            NaN
                                                     title
                        app_name
     0
            Lost Summoner Kitty
                                      Lost Summoner Kitty
     1
                       Ironbound
                                                 Ironbound
     2
        Real Pool 3D - Poolians
                                  Real Pool 3D - Poolians
     3
                           2222
                                                   2222
     4
                  Log Challenge
                                                       NaN
                                                        url release_date \
        http://store.steampowered.com/app/761140/Lost_...
                                                             2018-01-04
        http://store.steampowered.com/app/643980/Ironb...
                                                             2018-01-04
        http://store.steampowered.com/app/670290/Real_...
                                                             2017-07-24
           http://store.steampowered.com/app/767400/2222/
                                                               2017-12-07
     3
        http://store.steampowered.com/app/773570/Log_C...
                                                                    NaN
                                                              discount_price
                                                       tags
     0
            [Strategy, Action, Indie, Casual, Simulation]
                                                                        4.49
        [Free to Play, Strategy, Indie, RPG, Card Game...
     1
                                                                       NaN
        [Free to Play, Simulation, Sports, Casual, Ind...
     2
                                                                       NaN
     3
                               [Action, Adventure, Casual]
                                                                        0.83
     4
                           [Action, Indie, Casual, Sports]
                                                                        1.79
                                                reviews_url
        http://steamcommunity.com/app/761140/reviews/?...
       http://steamcommunity.com/app/643980/reviews/?...
     2 http://steamcommunity.com/app/670290/reviews/?...
     3 http://steamcommunity.com/app/767400/reviews/?...
        http://steamcommunity.com/app/773570/reviews/?...
                                                      specs
                                                                     price \
     0
                                            [Single-player]
                                                                      4.99
        [Single-player, Multi-player, Online Multi-Pla... Free To Play
     1
     2
        [Single-player, Multi-player, Online Multi-Pla... Free to Play
                                            [Single-player]
                                                                      0.99
        [Single-player, Full controller support, HTC V...
                                                                    2.99
```

	early_access	id	developer	sentiment	metascore
0	False	761140	Kotoshiro	NaN	NaN
1	False	643980	Secret Level SRL	Mostly Positive	NaN
2	False	670290	Poolians.com	Mostly Positive	NaN
3	False	767400		NaN	NaN
4	False	773570	NaN	NaN	NaN